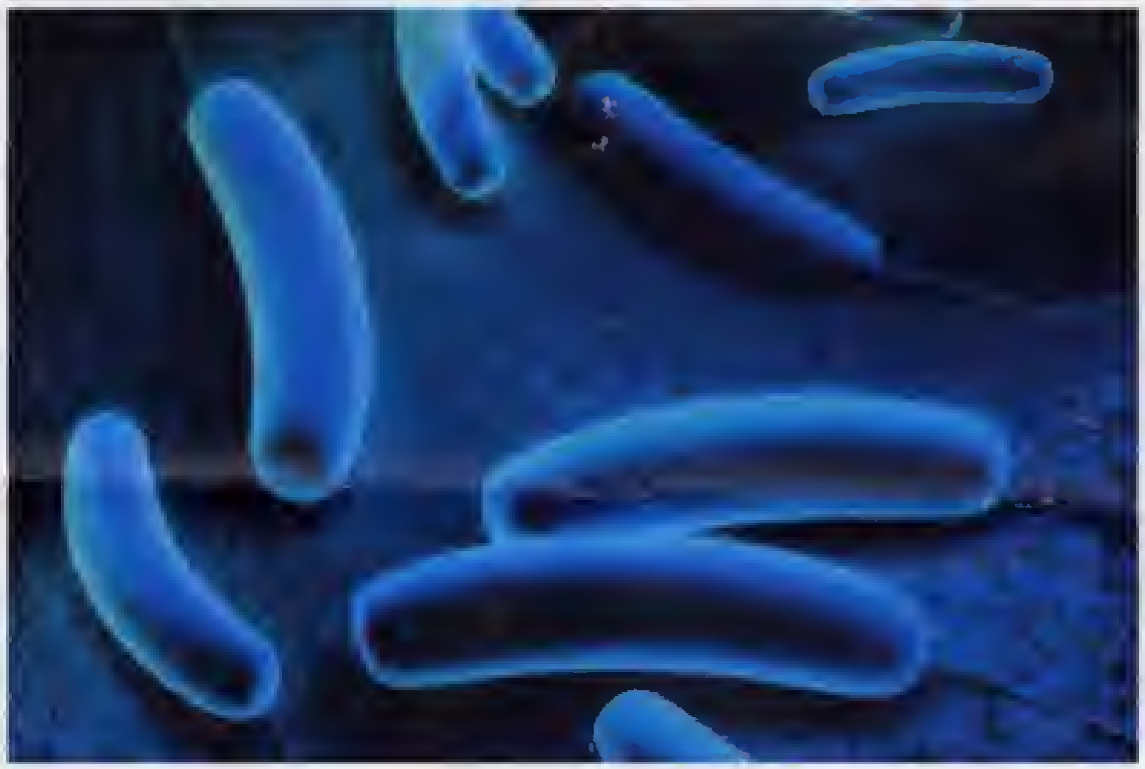
Olympic Legionella Project

Spring/Summer 2012



Background

As part of the assurance process for a safe and secure London 2012 Olympic Games, a programme of inspections was carried out looking at the arrangements to manage the risks from legionella in wet cooling towers and evaporative condensers.

HSE enforced sites were inspected within 2 kilometres of London based Olympic venues and certain major travel hubs (namely Heathrow Airport, London City Airport, London Bridge station and London St Pancras train station). Given the inevitable large footfall, all HSE enforced sites were inspected in the London Borough of Westminster.

Originally, the intention was to send a questionnaire to assist in prioritisation for the order of inspection. However, this was changed when there was sufficient resource to carry out inspections at all HSE enforced sites which had not already been inspected in 2012. This would provide extra assurance given the legionella outbreak in Edinburgh. Sites with the highest footfall were inspected first in the event that resources were diverted away from this project due to reactive work.

At the beginning of 2012, the relevant Local Authorities (LAs) were asked for a copy of the most up-to-date register of cooling towers and evaporative condensers. This was recorded on a spreadsheet and can be found at TRIM record number 2010/293297.

Results

- 106 total sites
- 62 HSE enforced sites with active wet cooling towers and evaporative condensers. HSE inspectors visited 57 of those and LA inspectors visited 5 on our behalf.
- 31 sites were decommissioned or not in use
- 4 sites were embassies where enforcement was a grey area. (2 sites were inspected by LA colleagues. 1 site not responded. 1 site we no longer believe have a cooling tower)
- 9 sites were for LA enforcement
- For the 62 HSE enforced sites, there have been 11 Improvement Notices (INs) at 6 sites. (6 INs for access, 1 IN for suitable and sufficient risk assessment, 1 IN for written scheme, 1 IN for monitoring arrangements, 1 IN for management, 1 IN for condition of pack). Written advice has been given to 30 sites. Verbal advice has been given to 8 sites. There was no further action at the remaining sites.
- In terms of breakdown for advice given (both written and verbal), top issues that arose were written roles and responsibilities (14 sites), incomplete or missing written scheme (9 sites) and recording results of monitoring (8 sites).
- There have been no prosecutions or prohibition notices so far

- Of the 62 HSE enforced sites, 19 sites were private sector and 43 sites were public sector
- Out of 19 private sector sites, 2 sites received Improvement Notices, 8 sites received written advice, 2 sites received verbal advice and 7 sites had no further action.
- Out of 43 public sector sites, 4 sites received Improvement Notices, 23 sites received written advice, 6 sites received verbal advice and 10 sites had no further action.

At the time of writing this report, further enforcement action is being considered against one site in the form of prosecution and further improvement notices.

The headline to arise from this project is the poor level of compliance. In percentage terms, 73% of sites were in receipt of enforcement notices or written/verbal advice. When broken down further into public and private sector, compliance was poorer in the public sector.

Analysis

There appears to be no logical reason why compliance is poor. It is fairly standard that legionella awareness courses cover stories of outbreaks such as in Barrow-in-Furness, and discuss the Corporate Manslaughter and Corporate Homicide Act 2007. The potential of any outbreak in terms of numbers of people infected and potential for prosecution on both an individual or corporate basis is well known. I can only speculate as to the reasons why compliance is poor. There was good compliance on quarterly testing for legionella with advice about this only given once, so those supervising may be relying too much on these results before asking further questions about general management of the system. Dutyholders may be under the impression that the appointment of a water treatment company in some capacity means that issues will be brought to their attention. Finally, I would speculate that training may possibly be an issue. Advice was given about training only once so it appears everyone is receiving some sort of training. I am not aware of a standard syllabus for legionella awareness training. There could be an issue with poor training or the wrong type of training for various people with roles and responsibilities.

Compliance is poorer in the public sector compared to the private sector. In many public sector organisations in London, the management of wet cooling towers and evaporative condensers is subcontracted to facilities management (FM) companies. It is disappointing that issues have been found at such sites given it is their specialism. This is compounded by the high turnover of FM companies to achieve the best value. I would speculate dutyholders are assuming that their wet cooling towers and evaporative condensers are being well managed as

they employ a professional FM company. I believe there is an issue with dutyholders taking a more positive role and carrying out better monitoring in these situations.

Traditionally, when looking at compliance across the board, the number of prosecutions and enforcement notices are taken into consideration. However, serving enforcement notices on legionella has proved difficult. Inspectors use the Enforcement Management Model (EMM) to decide what action to take. However, if dip slides are within safe limits and a biocide is being applied to the system consistently, it is very difficult to suggest the system is at risk at that point in time and the EMM will tend not to indicate an enforcement notice. It is well known that when an accident happens, there is normally an underlying cause such as a management failing behind it, so I believe that the written and verbal advice is relevant when looking at compliance across the board. Using prosecutions and enforcement notices alone could give a false picture.

There has not been a legionella outbreak in London in recent years arising from a wet cooling tower or evaporative condenser, so it could be said the risk of an outbreak in London is not high. Nearly all sites are visited by a water treatment company monthly and good water treatment companies advise if they see remedial works required. Most systems are automatically dosed by pumps meaning biocide levels are generally adequate and avoid the risks associated with manual dosing. Even if someone is not frequently checking that the biocide has run out, water treatment companies are proactive at making sure their customers are stocked up. However, there are water treatment companies out there who are not necessarily as proactive and possibly do not perform as well. Taken together with the increased turnover of FM companies leading to management responsibilities changing, it could be speculated that scenarios are occurring where an outbreak could happen. This will have catastrophic consequences compared to Edinburgh given it is the area with the most footfall within the country.

London has not been the subject of proactive legionella inspections in recent years except where it is a matter of concern such as in the manufacturing sector. Public sector organisations made up about two thirds of the sites visited. According to the government publication "*Good Health and Safety, Good for Everyone*" in March 2011, most if not all of these public sector organisations visited are deemed low risk. They would not have been subject to a proactive inspection. Given the type of work undertaken, they are unlikely to have appeared on the radar as a poor performer. They would not have been inspected had it not been for the Olympics coming to London. At the time of this report, a legionella intervention strategy has been proposed. However, there needs to be consideration about how to deal with wet cooling towers and evaporative condensers at these types of premises in the future beyond this.

Finally, approximately one third of sites did not have active wet cooling towers or evaporative condensers for various reasons. This demonstrates the lack of accuracy of the registers currently held. It may lead to delays in identifying possible sources should an outbreak situation occur. Inspectors have found identifying the appropriate people for visits very difficult (which is mirrored in the amount of advice given for written roles and responsibilities). Given a national legionella intervention has been planned based upon a questionnaire being sent out to dutyholders, a repeat of this situation could mean many unreturned questionnaires where sites have no wet cooling towers and evaporative condensers in operation. Some questionnaires could also end up lost in transit within organisations as it may not be apparently clear who in the organisation is managing the system. Consideration is needed into how to deal with this scenario before visits are put forward to inspectors.

Further areas for discussion

A safety alert has been recently issued in relation to legionella following a review of outbreaks in the past ten years, and as discussed, a national legionella intervention has been proposed. Given the findings here, this is very timely. There is the will and resources from dutyholders to comply, and I believe they may need more steering in the correct direction. The following is suggested for further discussion:

- Working with representative bodies to publicise the findings of this project and the safety alert. In particular, those representing industries that performed less well, for example, the Facilities Management Association (FMA) which represents FM companies. There may be opportunities for publicity in trade magazines.
- Review the content and delivery of legionella awareness training by the industry. I would suggest more guidance on what dutyholders should consider when identifying a suitable provider and the appropriate level of training for various roles. Paragraphs 43-45 in *Legionnaires' disease – The control of legionella bacteria in water systems* (L8) is general and little mention is made on the HSE legionella microsite.
- Using the microsite to give example written roles and responsibilities, including one example including where an FM company is employed. While every organisation is different, it will re-enforce that the dutyholder has ultimate responsibility. I suggest some guidance on the types monitoring they should be doing both on FM companies and contractors. L8 paragraphs 46-51 is general and the microsite gives the impression that if a contractor is part of the Legionella Control Association, it's as much checking as they need to do. Some contractors with that membership are still

not necessarily that good. I would also suggest some guidance around what type of checks senior managers should do on in-house monitoring of systems.

- Looking at how we can ensure we capture significant risks such as wet cooling towers and evaporative condensers in low risk industries not proposed for proactive inspection and unlikely to appear as poor performers. Its not suggested in any way that the decision on proactive inspection on low risk premises is reversed. However, one option could where there is evidence of below average performance in relation to maintenance in low risk premises, which also have wet cooling towers or evaporative condensers, it should be more apparent on our radar.
- Water treatment companies are usually the first to spot when a dutyholder is not complying with the requirements of L8. In other industries, there is a requirement to report to HSE when certain defects are found. I suggest discussion on whether a voluntary reporting requirement through the HSE complaints system for certain non-compliance matters could be introduced. There is a code of conduct already in place for the Legionella Control Association where it could be added. Issues that could be reported for example include lack of suitable and sufficient risk assessment, failure to follow up on any recommendations multiple times etc. While it could turn out unworkable, I believe the discussion should take place on whether the benefits outweigh the difficulties.
- Making the checklist in the London Boroughs' Legionellosis incident protocol (Trim 2012/0041189) more widely available within HSE to inspectors for use during inspections. This was handed out to inspectors during this project. The feedback was that it was one of the best checklists available. It was comprehensive, clear and straightforward. I would also suggest a version of this could be made available on our microsite for use by dutyholders too.
- In relation to the national legionella intervention, thought needs to be given to dedicating resources for chasing up dutyholders who don't return the questionnaire. There is the potential that inspectors' time will not be used in the most effective way if the tradition of inspecting dutyholders who don't return a questionnaire is used. In addition, I would also suggest giving consideration to capturing written and verbal advice for statistics on compliance at the end of the intervention.